

WHAT IS CLAIMED IS:

1. A method for processing a preform supported with a stationary chuck and a movable chuck of a glass-working lathe, which method comprising
5 providing a burner of a type which is able to create flame-controlled conditions by controlling flow rates of a flammable gas and a supporting gas wherein the supporting gas is discharged from at least one group of discharge pipes co-axially classified into plural groups that are, respectively, controllable with respect to a gas flow rate, and processing a preform under
10 the flame-controlled conditions.
2. The method according to Claim 1, wherein the plural groups of the discharge pipes are provided within a hollow body through which the flammable gas is passed, and the plural groups are co-axially arranged
15 within the hollow body from a center toward an outer periphery thereof, and the discharge pipes are so arranged that the supporting gas is passed therethrough in a manner as to be controllable in every group.
3. The method according to Claim 1, wherein said hollow body is made of a
20 hollow cylinder and the plural groups of discharge pipes which are concentrically disposed within the hollow cylinder closed at one end and opened at the other end.
4. The method according to Claim 1, wherein the plural groups are three in
25 number.

5. The method according to Claim 1, wherein the plural groups are four.
6. The method according to Claim 1, wherein flow rates of gases supplied to the plurality of groups and also to spaces other than the discharge pipes
5 inside said burner are, respectively, controlled depending on a diameter of a preform to be processed.
7. The method according to Claim 6, wherein the flow rates of the gases are changeable in a stepwise manner or gradually.
- 10 8. A burner system which comprises: a structure including a hollow body closed at one end and opened at the other end, through which a flammable gas is passed, and plural groups of coaxially arranged inner discharge pipes accommodated in the hollow body, through which a supporting gas is passed;
15 gas feed lines connected to said hollow body and said plural groups each at one end of individual gas feed line, respectively; and gas sources connected to said hollow body and the plural groups through the gas feed lines at the other end thereof, respectively, wherein each gas feed line has a control means for controlling a flow rate of a gas to be passed therethrough.
- 20 9. The burner system according to Claim 8, wherein said hollow body is made of a hollow cylinder and the plural groups of the inner discharge pipes are concentrically arranged within said hollow cylinder, respectively.
- 25 10. The burner system according to Claim 9, wherein the inner discharge pipes are classified into the plural groups in a concentric fashion.

11. The burner system according to Claim 9, wherein the plural groups of the inner discharge pipes are concentrically arranged within said outer hollow cylinder and the innermost group includes up to three pipes.

5 12. The burner system according to Claim 11, wherein said innermost group includes one pipe.

13. The burner system according to Claim 8, wherein said flammable gas is selected from the group consisting of hydrogen and a hydrocarbon gas and
10 said supporting gas consists essentially of oxygen.

14. The burner system according to Claim 8, wherein said flammable gas consists essentially of hydrogen.

15 15. The burner system according to Claim 8, wherein said control means is made of a hand valve and a mass flow controller.

16. The burner system according to Claim 8, further comprising a control unit from which a control signal is transmitted to said control means for
20 controlling a flow rate of a gas to be supplied through said control means.

17. A preform processing apparatus comprising the burner system defined in Claim 8.

25